

REMARKS

Claims 1-10 and are pending in this application. Claims 6-9 are withdrawn leaving claims 1-5, 10, and 14 for examination. In an Office Action dated 18 May 2007, all of claims 1-5, 10, and 14 are rejected on prior art grounds. In reply, claims 1, 2, 10, and 14 are slightly revised herein to more clearly recite the invention. Also in reply to the Action, the present Remarks are herein provided to assist the Examiner in distinguishing the cited references.

It is noted that the outstanding Office Action is FINAL. However, Applicant respectfully submits that the Amendment is proper because (a) it only requires cursory review on the part of the Examiner, and (b) it places the claims in better form for appeal. The present amendment simply clarifies that the recited two early pattern generators are each connected to different inputs. This is substantially inherent in the previous and original claim language and is simply clarified and emphasized herein. Thus, the amendment does not add new limitations for consideration by the examiner, but instead, only requires a cursory review. Moreover, the amendment removes issues for appeal by clarifying the claimed invention. Accordingly, this amendment after Final is proper and timely. Entry and consideration hereof and prompt issuance of a Notice of Allowance are respectfully requested.

Nonetheless, a Notice of Appeal is co-filed with this Response in order to expedite appeal if Applicant's claims are not found allowable upon entry and consideration of the present Response.

The Examiner's various objections and rejections are now addressed in turn.

Claims 1-5 and 10 are rejected under section 102 as allegedly lacking novelty in view of U.S. Patent No. 5,555,306 to Gerzon. However, these claims include limitations not found in Gerzon and are thus novel over the reference.

Claim 1 recites a signal processing unit comprising, inter alia, at least two inputs and at least two early pattern generators for defining a predefined early pattern generation where each generator is connected to a different one of the two inputs, each of the generators establishes an output having N directional components, and each output of N directional components is added together to form at least one signal having N directional components. Gerzon simply does not provide these limitations.

The Gerzon patent discloses an audio signal processing system but does not establish directional information by the use of early reflection simulators and thus the output of the Gerzon system does not (and cannot) comprise N directional components, as recited in claim 1. To the contrary, Gerzon is concerned with simulating different distances of sound sources. That is, Gerzon seeks to create an illusion of a desired apparent sound distance from a listener. Col. 1, line 12. To the contrary, the claimed invention concerns accurately simulating a room response which necessarily requires accurate estimation of both delays and directions of the early reflections.

In the Office Action, the Examiner concludes that Gerzon teaches outputs with N directional components, as claimed. Office Action, page 2. In support, the Examiner provides a number of citations within Gerzon but does not specify which precise embodiment of Gerzon in fact reads on this claim limitation. The only one of these citations which could possibly be interpreted in this way, is perhaps the disclosure at col. 11, line 23 through col. 12, line 11 which refers to Figure 6. Here, Gerzon teaches a stereo early reflection simulator. However, such a stereo signal is not a signal with two directional components as claimed. That is, stereo comprises two highly correlated, dependent, panned components configured for playback in two channels in order to give an impression of direction. The invention, to the contrary, concerns discrete, directional components which need to be rendered (e.g., into a stereo or multi-channel format) before being reproduced in typically far less speaker channels P than the number of directional components N. Gerzon produces early reflections without considering the different direction of the early reflections which would if the reflections were established by walls or objects in an actual room. Then, the Gerzon early reflections are panned by

stereo techniques to appear either at the direction of the source or symmetrically disposed to the other side of the stereo image, and thus a stereo output is achieved. This stereo output gives the listener some illusion of space but not an accurate room response as in the claimed invention. Thus, the claimed "N directional components" are not found in Gerzon.

Accordingly, claim 1 is novel over Gerzon. Claims 2-5 depend from novel claim 1 and are thus correspondingly novel. Moreover, these claims recite a "direction rendering unit" which is simply not taught or even suggested by Gerzon. Concerning these claims, the Examiner states that "Gerzon discloses the use of other distance simulation means...which constitutes as a direction rendering unit, therein as claimed." Office Action, page 3. As mentioned, the recited invention concerns directions of a source and the reflections, not distance to a source as contended by the Examiner. Claim 2 recites that the direction rendering unit renders the N directional components into P audio channels. This could be, for example, stereo or 5.1 multi-channel. Gerzon does not provide a direction rendering unit because, as discussed above, the reference does not teach N directional components or a need for rendering. Claims 3-4 concern directional rendering based on trans- or bin-aural principles or on experience. Claim 5 requires a circuit establishing late reverberation. These items or claims 3-5 are simply not found in Gerzon. Thus, for all of these reasons, claims 1-5 are novel over Gerzon.

As mentioned above, claim 10 is rejected under section 102 of the Code as allegedly lacking novelty with respect to Gerzon. However, claim 10 generally includes the limitations discussed above with respect to claim 1 and thus for the aforementioned reasons is novel over Gerzon.

Claim 14 is rejected under section 102 as allegedly lacking novelty with regard to U.S. Patent No. 5,862,233 to Poletti. However, claim 14 generally includes the limitations discussed above with respect to claim 1. As discussed, these limitations are not found in Gerzon. Poletti fails to remedy the deficiencies of Gerzon. See Applicant's

comments at pages 5-7 of the Response to Office Action dated 29 January 2007.
Accordingly, for these reasons, claim 14 is novel.

As set forth herein, all of claims 1-5, 10, and 14 are novel over the relied upon references. Reconsideration and withdrawal of the outstanding rejections under 35 U.S.C. 102 is respectfully requested.

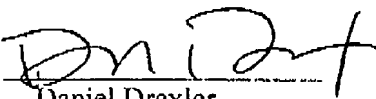
No new matter is added by way of the present Amendments as support is found throughout the originally filed specification, claims and drawings.

The Examiner is invited to contact Applicant's attorney at the below-listed phone number regarding this Response or otherwise concerning the present application.

Applicant hereby petitions for any necessary extension of time required under 37 C.F.R. §§1.136(a) or 1.136(b) which may be required for entry and consideration of the present Reply.

If there are any charges due with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130 maintained by Applicant's attorneys.

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